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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/739,386	12/19/2000	Jean-Luc Vanhee	Q62330	3309

7590 10/10/2003

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EXAMINER	
LEJA, RONALD W	
ART UNIT	**PAPER NUMBER**
2836	

DATE MAILED: 10/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/739,386	VANHEE, JEAN-LUC	
	Examiner	Art Unit	
	Ronald W Leja	2836	

-- Th MAILING DATE of this communication app ars on the cover she t with th correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 December 2000* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 December 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The metes and bounds of Claims 1 and 9 are not known because of the use of the phrase, "in particular ..."; is there one cell, a group of cells or a group of cells connected in parallel? Claims 1 and 9 are confusing in that they first recite "at least one individual circuit", then recite, "a first shunt circuit" and then later refer to "said circuit directly short circuiting ..."; which circuit is referred to by "said circuit"? There is a lack of antecedent basis for "said second shunt circuit" in Claims 8 and 16.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-4, 6, 8-12, 14 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burns et al. (5,180,641) in view of Wilson (5,206,775).

Burns et al. disclose a safety device for short-circuiting a failed module of a battery composed of a plurality of cell modules. The device comprises an individual protection circuit having two shunt paths and with an individual protection circuit for each module of the

battery (for Claims 4 & 12). The first shunt path comprises an energy consuming member (27b) in series with a switching member (27a) to be applied in the voltage threshold is above an upper level. Diodes conduct when a voltage threshold is met, and as such, one diode can be reasonably considered to be a switching member and another series connected diode, an energy consuming member. Both or all the diodes in the stack (27a-e) essentially switch and consume energy. The second shunt path (for Claims 3 & 11) comprises diodes (31,33). Although Schottky diodes are disclosed as possibly being used in the second path, which minimizes power dissipation, the Reference does not appear to disclose "directly short circuiting" the terminals of the failed cell. In spite of the fact, Wilson teaches a second shunt path comprising a relay (40) for providing a direct short-circuit; the second shunt path is triggered by a triggering device (60) (for Claims 6 & 14). It would have been obvious to one having ordinary skill in the art at the time of the invention to apply the teachings of Wilson (i.e. direct short-circuit in 2nd path) as a means to offer less current consumption in the overall battery, when correcting for a failed cell module, thereby increasing battery source life. It would have been obvious to apply the use of a trigger device as fairly taught by Wilson as a means to control the relay in the second shunt path.

Claims 5, 7, 13 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burns et al. in view of Wilson and further in view of Itou et al. (5,880,575).

Claims 7 and 15 are drawn to use of a programmed control unit and Claims 5 and 13 define the energy consuming member as a resistor. Itou et al. teach the use of a programmed control unit (53) for controlling at least one switching member of a shunt path and that energy dissipating resistors (i.e. 64) can be used in a shunt path (see Fig. 1). It is the opinion of the Examiner that it would have been obvious to incorporate the use of a programmed control unit as a means to offer a higher degree of reproducibility in switching of the switching members and also allows for increased applications as the ease of programming the controller as opposed to finding the right combination of diodes to function properly with a battery having different cell modules with different voltage requirements. The use of a resistor over that of a diode for a consuming member would have been obvious as a means to avoid having to meet a voltage threshold before conduction; resistors also have a wide degree of varying resistance levels, thereby increasing applications once again to numerous batteries having different cell modules with different voltage requirements.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ronald W Leja whose telephone number is (703) 308-2008. The examiner can normally be reached on Monday thru Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on (703) 308-

3119. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Ronald W Leja
Primary Examiner
Art Unit 2836

10/1/03

rwl
October 1, 2003